**FIGURE 1**

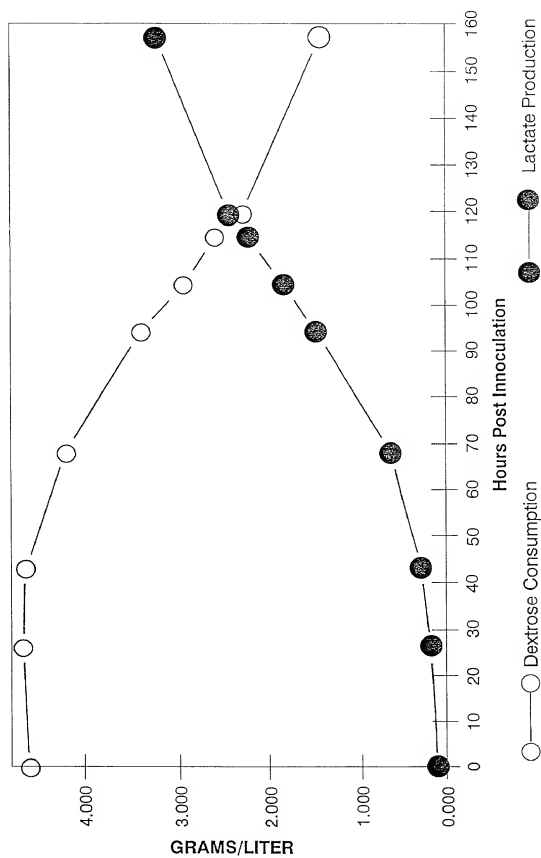


FIGURE 2

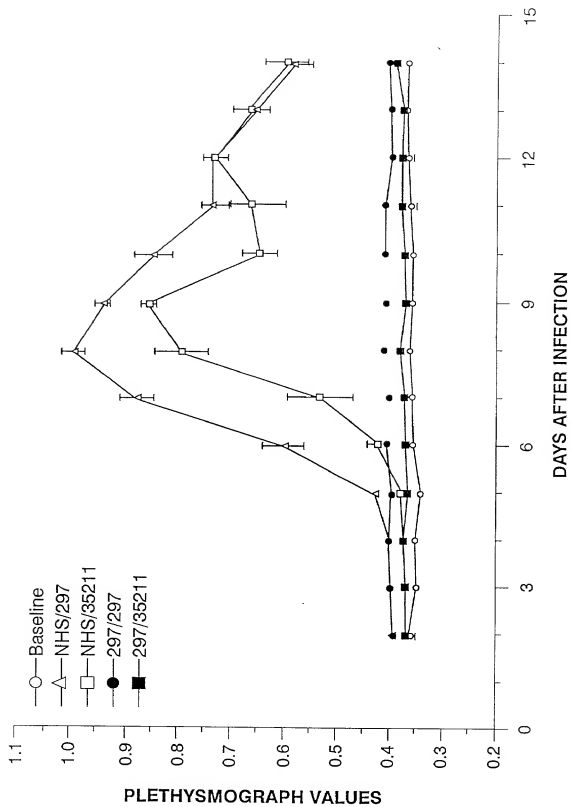
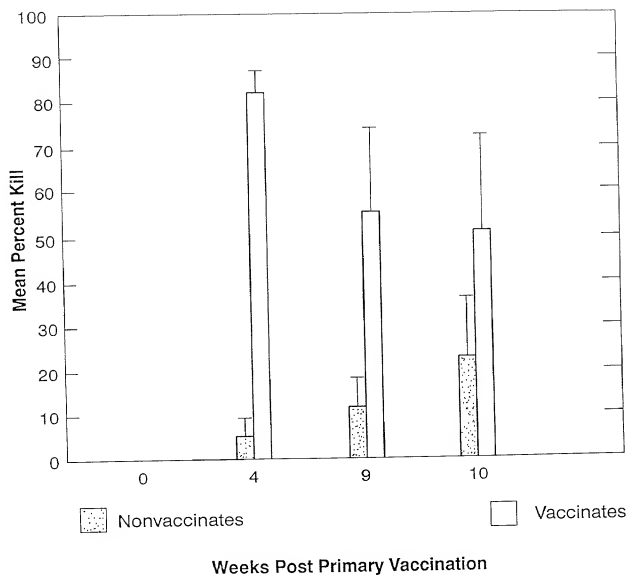
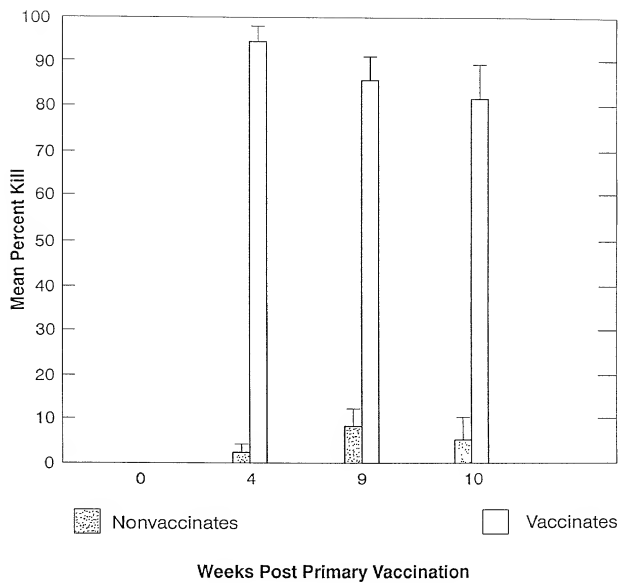
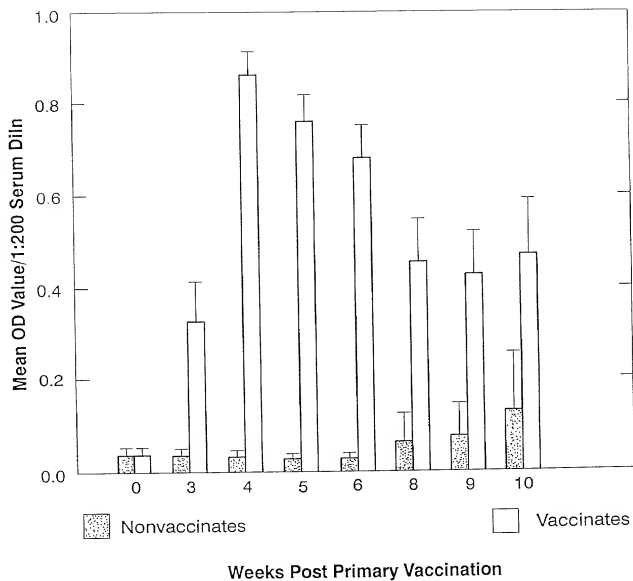
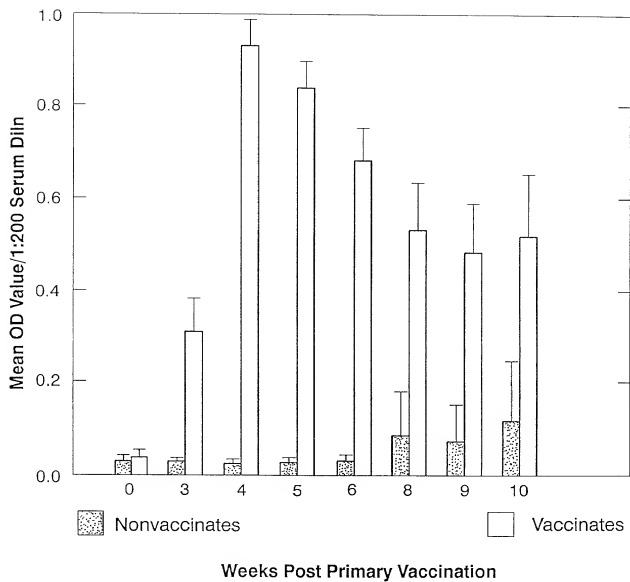


FIGURE 3

**FIGURE 4**

**FIGURE 5**

**FIGURE 6**

**FIGURE 7**

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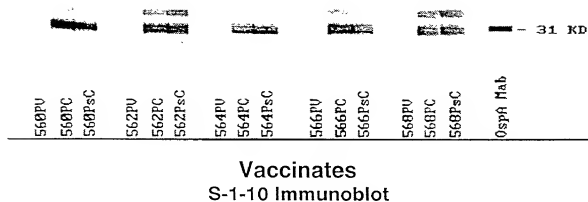


FIGURE 8A

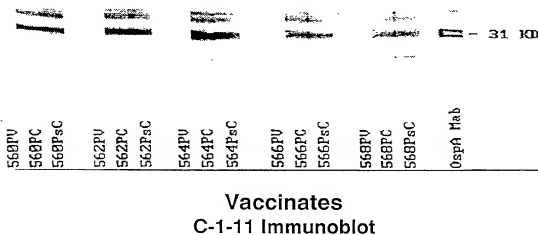
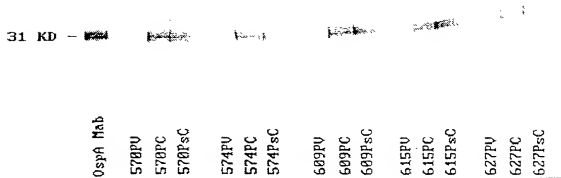


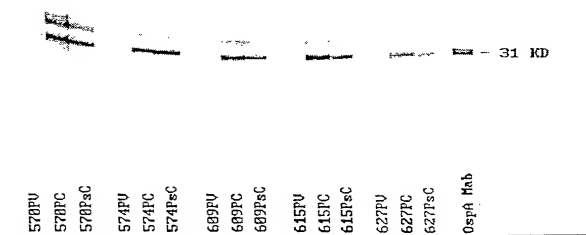
FIGURE 8B

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Vaccinates
S-1-10 Immunoblot

FIGURE 9A



Vaccinates
C-1-11 Immunoblot

FIGURE 9B

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558PV
558PC
558PcC

588PV
588PC
588PcC

582PV
582PC
582PcC

584PV
584PC
584PcC

586PV
586PC
586PcC

OspA Mab

Vaccinates
S-1-10 Immunoblot
FIGURE 10A

558PV
558PC
558PcC

588PV
588PC
588PcC

582PV
582PC
582PcC

584PV
584PC
584PcC

586PV
586PC
586PcC

OspA Mab

Vaccinates
C-1-11 Immunoblot
FIGURE 10B

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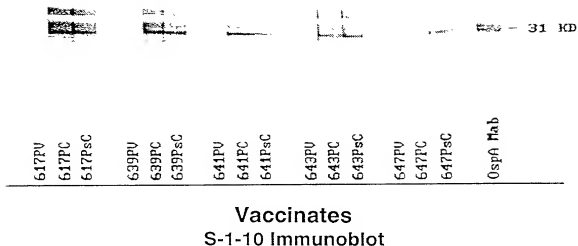


FIGURE 11A

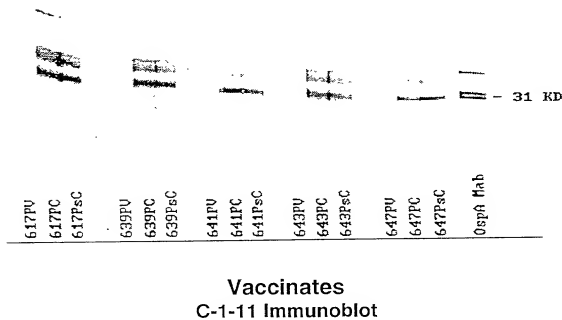


FIGURE 11B

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-186KD

-88KD

-49.5KD

-32.5KD

-31KD OspA

-27.5KD

667 673 671 669 665 663 661 655 651 612 610 608 598 556 554 Hab

Nonvaccinates Prechallenge
S-1-10 Immunoblot

FIGURE 12A

-186KD

-88KD

-49.5KD

-32.5KD

-31KD OspA

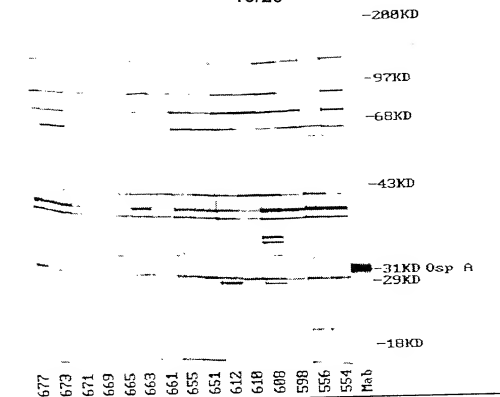
-27.5KD

677 673 671 669 665 663 661 655 651 612 610 608 598 556 554 Hab

Nonvaccinates Prechallenge
C-1-11 Immunoblot

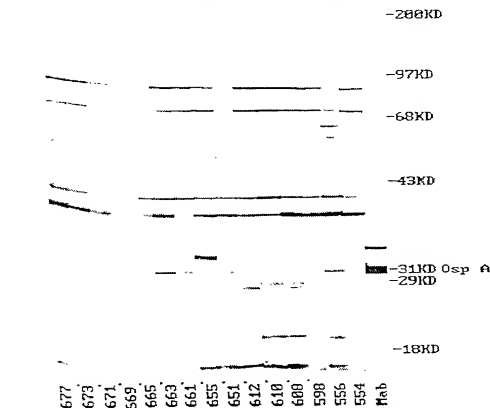
FIGURE 12B

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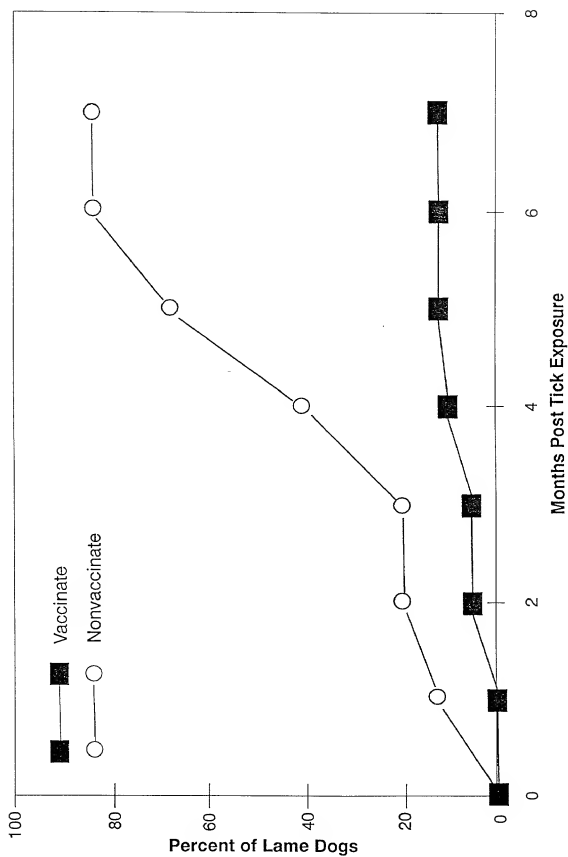
Nonvaccinates Postchallenge
S-1-10 Immunoblot

FIGURE 13A



Nonvaccinates Postchallenge
C-1-11 Immunoblot

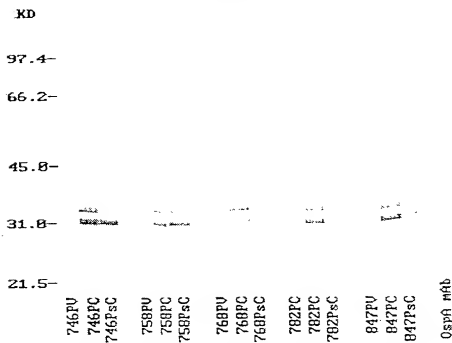
FIGURE 13B



Months Post Tick Exposure

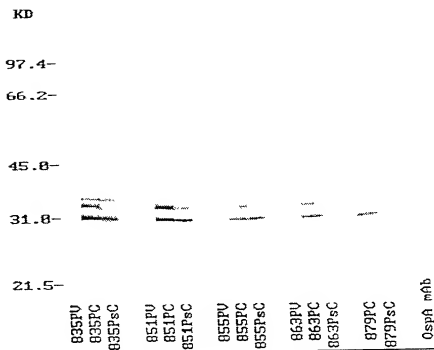
FIGURE 14

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Vaccinates - 5×10^8 Cells/Dose
C-1-11 Immunoblot

FIGURE 15A



Vaccinates - 5×10^8 Cells/Dose
C-1-11 Immunoblot

FIGURE 15B

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KD

97.4-

66.2-

45.8-

31.8-

21.5-

746PV
746PC
746Psc

758PV
758PC
758Psc

768PV
768PC
768Psc

782PV
782PC
782Psc

847PV
847PC
847Psc

OspA mAb

Vaccinates - 5×10^8 Cells/Dose
S-1-10 Immunoblot

FIGURE 16A

KD

97.4-

66.2-

45.8-

31.8-

21.5-

835PV
835PC
835Psc

851PV
851PC
851Psc

855PV
855PC
855Psc

863PV
863PC
863Psc

879PV
879PC
879Psc

OspA mAb

Vaccinates - 5×10^8 Cells/Dose
S-1-10 Immunoblot

FIGURE 16B

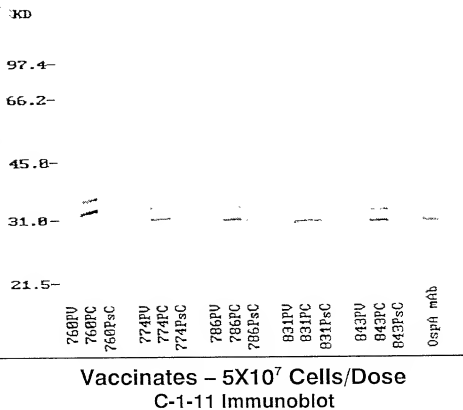


FIGURE 17A

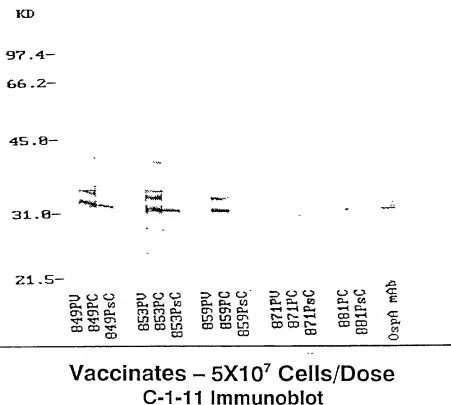
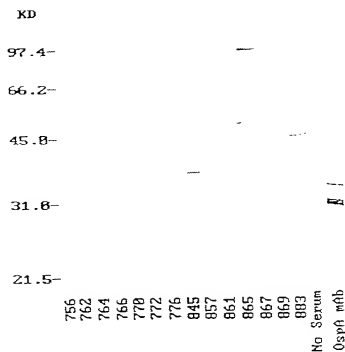


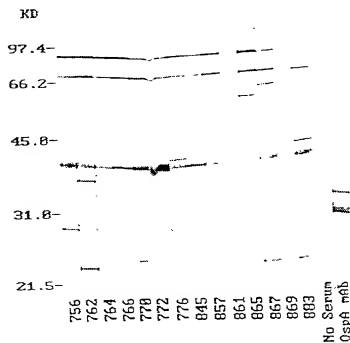
FIGURE 17B

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Nonvaccinates Prechallenge
C-1-11 Immunoblot

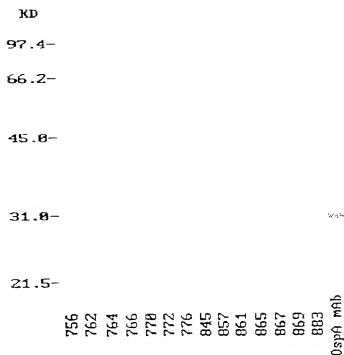
FIGURE 18A



Nonvaccinates Post Tick Challenge
C-1-11 Immunoblot

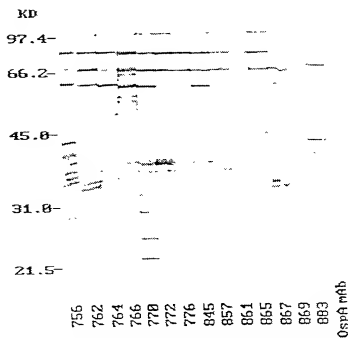
FIGURE 18B

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Nonvaccinates Prechallenge
S-1-10 Immunoblot

FIGURE 19A



Nonvaccinates Post Tick Challenge
S-1-10 Immunoblot

FIGURE 19B

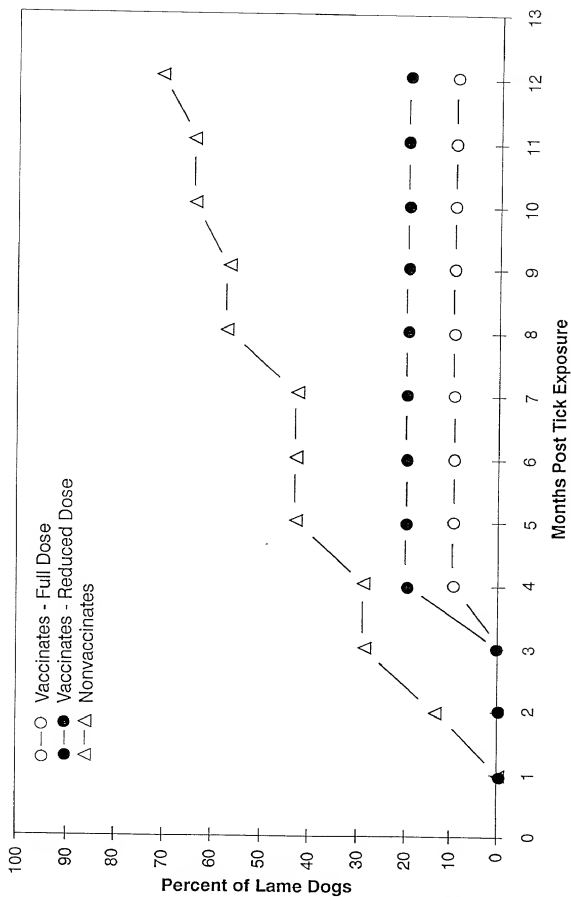


FIGURE 20